

Exhibit 3 – Claim 1 of '829 Patent

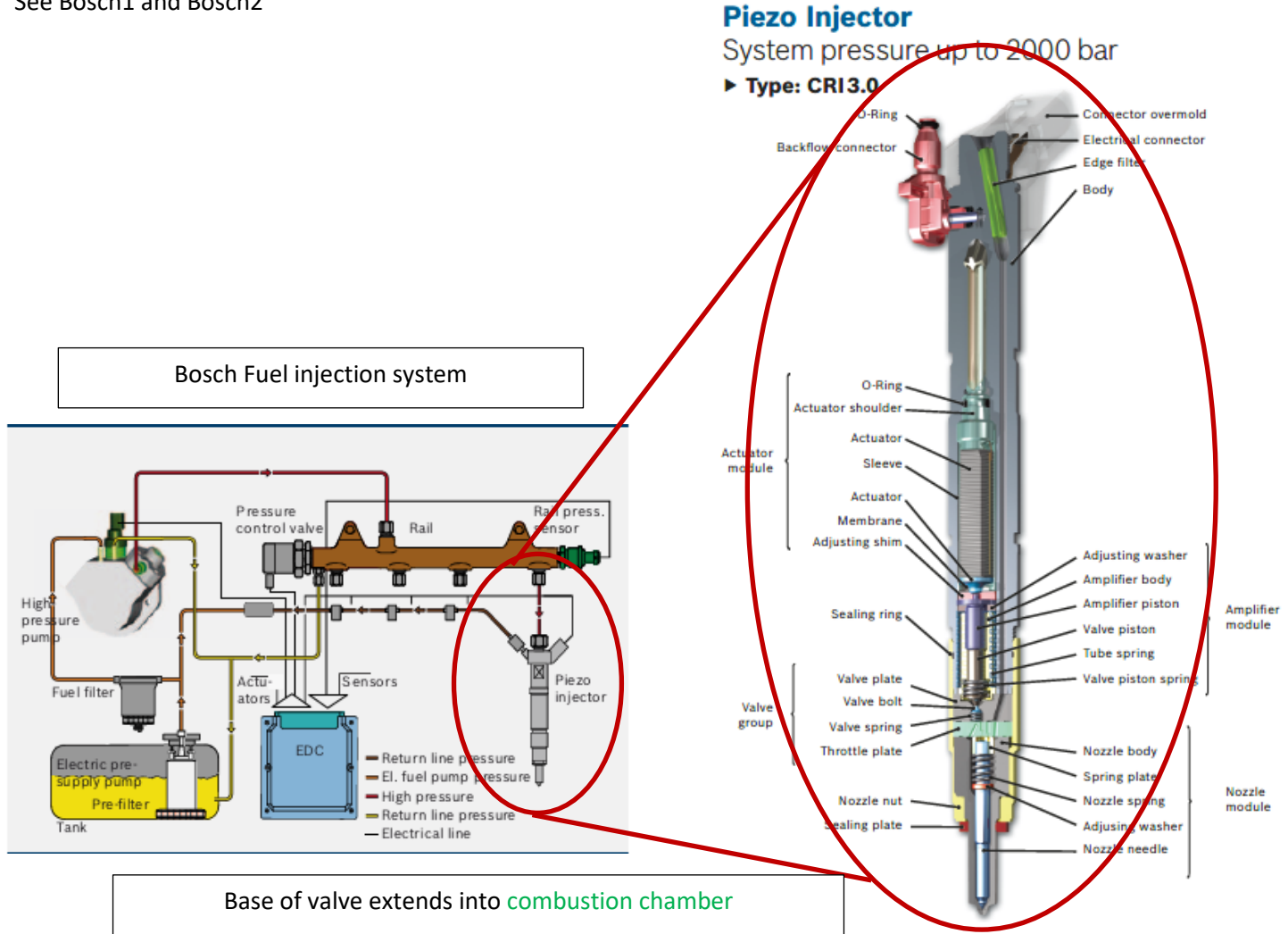
829 Patent Claim Element	Analysis
<p>1. An injection valve for injecting fuel into a combustion chamber of an internal combustion engine, said injection valve comprising:</p>	<p>See Bosch1 and Bosch2</p> <div data-bbox="962 267 2405 1307"> <p>Bosch Fuel injection system</p>  <p>Piezo Injector System pressure up to 2000 bar ► Type: CRI3.0</p> <p>Labels for Piezo Injector cross-section:</p> <ul style="list-style-type: none"> Backflow connector O-Ring Connector overmold Electrical connector Edge filter Body Actuator module: <ul style="list-style-type: none"> O-Ring Actuator shoulder Actuator Sleeve Actuator Membrane Adjusting shim Valve group: <ul style="list-style-type: none"> Sealing ring Valve plate Valve bolt Valve spring Throttle plate Nozzle nut Sealing plate Amplifier module: <ul style="list-style-type: none"> Adjusting washer Amplifier body Amplifier piston Valve piston Tube spring Valve piston springs Nozzle module: <ul style="list-style-type: none"> Nozzle body Spring plate Nozzle spring Adjusting washer Nozzle needle <p>Base of valve extends into combustion chamber</p> </div>

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1A1 - (a) a valve housing comprising:
1A2 a fuel inlet port;
1A3 an interior chamber fluidly connected to said fuel inlet port; and
1A4 a nozzle comprising a nozzle orifice providing a fluid passage from said interior chamber to said combustion chamber;



See Bosch2 and MB P/N 6420702987

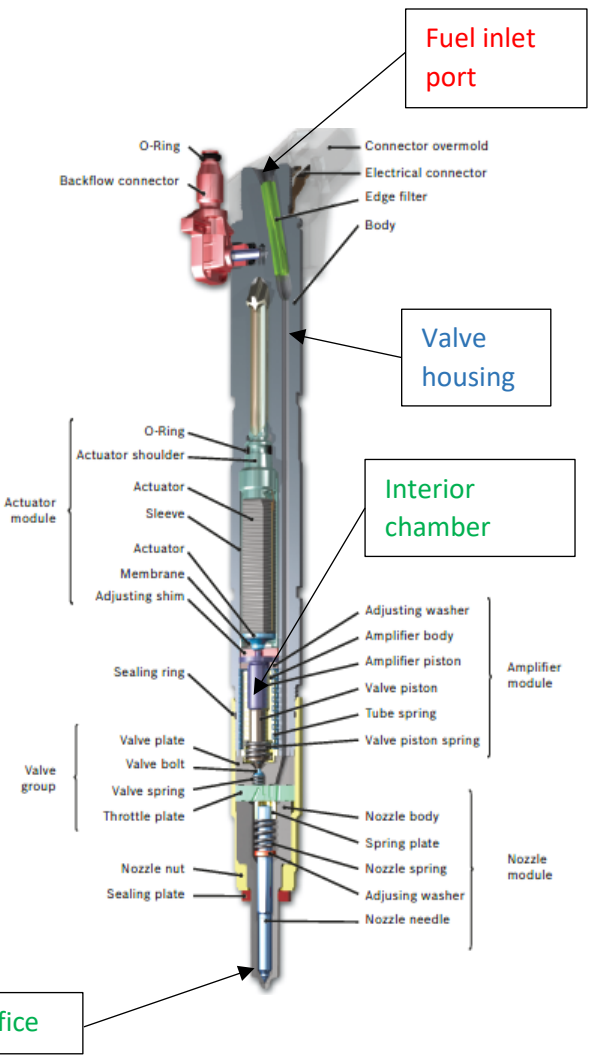


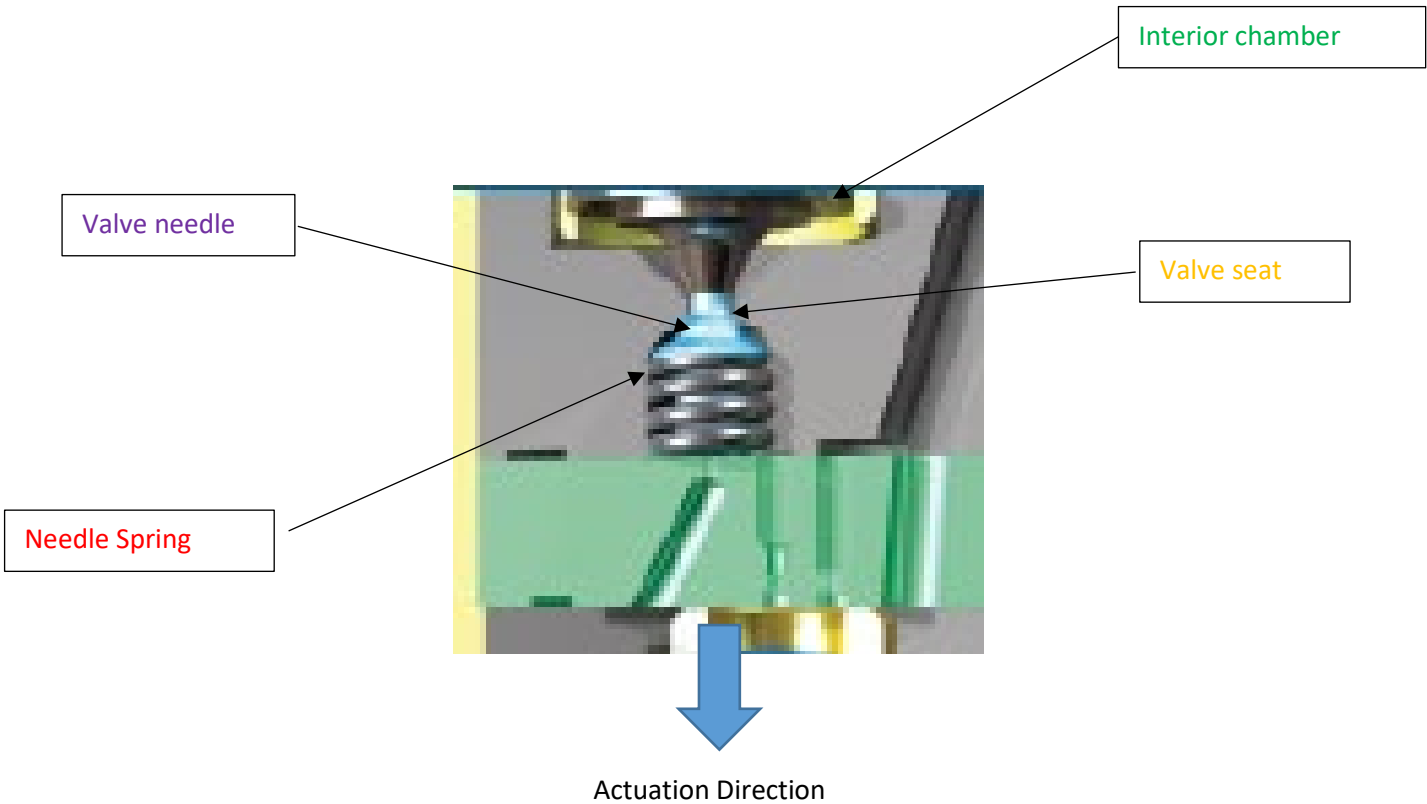
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1B (b) a **valve needle** disposed within said valve housing wherein said valve needle is movable between a closed position at which a sealing end of said valve needle contacts a **valve seat** to fluidly seal said **interior chamber** from said nozzle orifice, and an open position at which said sealing end of said valve needle is spaced apart from said valve seat whereby said interior chamber is fluidly connected with said nozzle orifice, wherein valve needle lift equals the distance traveled by said sealing end away from said valve seat;

1C (c) a **needle spring** associated with said valve needle, wherein said needle spring applies a closing force to said valve needle for biasing said valve needle in said closed position;

As injection valve is opened, the valve needle moves downward away from the valve seat and toward the combustion chamber,

Valve member shown in closed position



See Bosch2

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1D (d) an **actuator assembly** associated with said **valve needle**, wherein said actuator assembly may be actuated to apply an opening force to said valve needle stronger than said closing force, for moving said valve needle to said open position; and

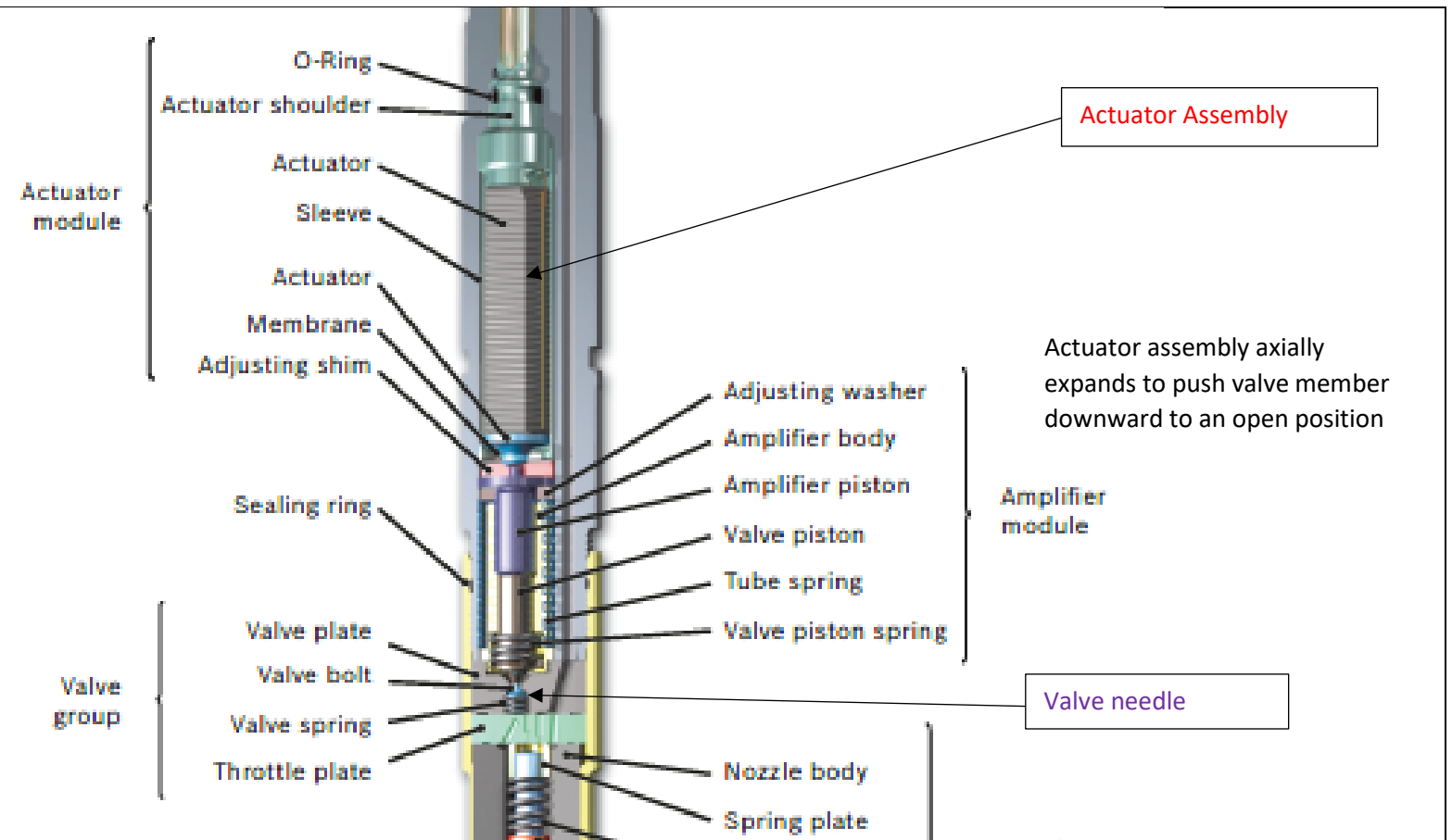


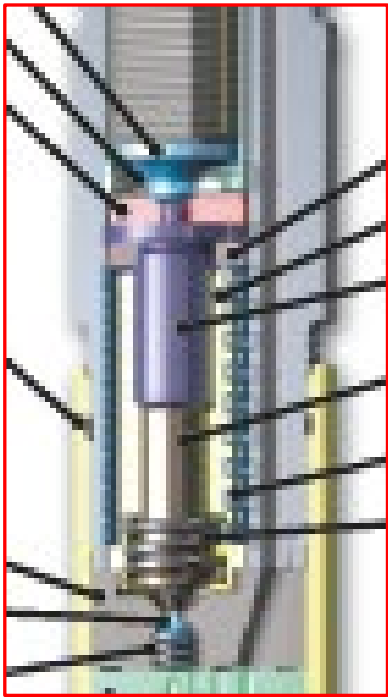
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1E (e) a hydraulic link assembly comprising a passive hydraulic link having a hydraulic fluid thickness through which said opening and closing forces are transmitted,

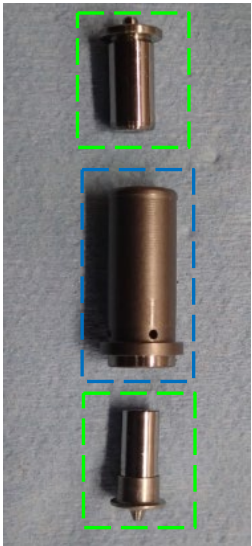
1E1 whereby said hydraulic fluid acts substantially as a solid

1E2 with said thickness being substantially constant while said actuator assembly is actuated and wherein

1E3 said thickness of said hydraulic link is adjustable while said actuator assembly is not actuated in response to changes in the dimensional relationship between components of said injection valve to maintain a desired valve lift upon actuation of said actuator assembly.



Hydraulic link assembly



1st Piston

Hydraulic cylinder

2nd Piston

The hydraulic link assembly includes a hydraulic cylinder and two (2) pistons which do not seal against the cylinder. The ends of the two pistons also do not touch so that a thickness of fluid exists between the ends of the two cylinders.

See Bosch2 and MB P/N 6420702987